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PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
HONEYWELL No. H25311
(MBHB NO. 06-605)

the Application of:
JOHN SPENCER CUNNINGHAM ET AL.
Serial No.: 09/460,197 Art Unit: 2629
Filed: 12/13/1999 Examiner: NGUYEN, KEVIN M.
For: MULTIPLE AND HYBRID DISPLAY TYPES

TRANSMITTAL LETTER

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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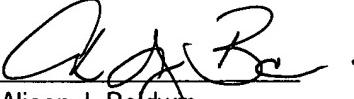
- a. Appellant's Thrice-Amended Second Supplemental Appeal Brief;
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Respectfully submitted,

By: 
Alison J. Baldwin
Reg. No. 48,968

Date: December 11, 2006

McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive
Chicago, Illinois 60606
Telephone: (312) 913-0001
Facsimile: (312) 913-0002

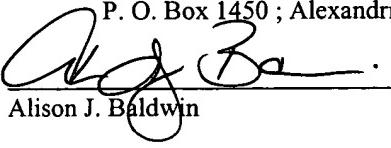


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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PATENT (MBHB NO. 06-605)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

JOHN SPENCER CUNNINGHAM ET AL.

Serial No.: 09/460,197

Art Unit: 2629

Filed: 12/13/1999

Examiner: NGUYEN, KEVIN M.

For: MULTIPLE AND HYBRID
DISPLAY TYPES

APPELLANT'S THRICE-AMENDED
SECOND SUPPLEMENTAL APPEAL BRIEF

To: Mail Stop Appeal Brief-Patents
Commissioner of Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notification of Non-Compliance mailed November 9, 2006, Appellant provides its Thrice-Amended Second Supplemental Appeal Brief in triplicate in connection with the above-identified application with the Board of Patent Appeals and Interferences ("Board"). After Applicants' Appeal Brief was timely filed, a non-final

office action was sent by the office on 1/15/04. The Applicants filed a timely reinstatement of the appeal with a Supplemental Brief on April 13, 2004. For a second time, the prosecution was reopened and another new reference was cited in a non-final office action dated 12/16/04. A Supplemental Brief was filed March 8, 2005. On February 3, 2006 an office action was issued whereby the Examiner indicated that the Supplemental Brief did not comply with the appeal brief requirements. On February 23, 2006, Applicants filed a Supplemental Appeal Brief in conjunction with their second Reinstatement of the Appeal, discussing the old and new references and arguments raised by the Examiner in all of the office actions.

On May 8, 2006 another office action was issued identifying additional items in need of correction in Applicants' Amended Supplemental Appeal Brief. On August 8, 2006 applicants filed a Twice-Amended Second Supplemental Appeal Brief in response to an additional Office action mailed May 8, 2006. On November 9, 2006, another office action was issued further identifying additional items in need of correction in Applicants' Twice-Amended Second Supplemental Appeal Brief. Applicants file this Thrice-Amended Second Supplemental Appeal Brief in response to this Office Action mailed November 9, 2006.

This being a Supplemental brief, it is Applicants' belief that a fee for the brief is not due. However, if a fee is required, the Commissioner is authorized to charge any fees or credit any overpayment under 37 CFR §§ 1.16 and 1.17, which may be required during the pendency of this application to Deposit Account No. 13-2490.

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(1) Real Party in Interest

The real party in interest is Honeywell International Inc., to which this invention is assigned.

(2) Related Appeals and Interferences

No other appeals or interferences will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal. See the comments on pages 1-2 of this brief regarding previous briefs relating to this appeal.

(3) Status of Claims

Claims 1-32 were withdrawn by the Examiner pursuant to a restriction requirement in Paper 5, and are not appealed. Claims 37 and 47 were canceled in Applicants' amendment and response to the Office action filed on August 28, 2002, and are not appealed. Claims 33-36, 38-46, and 48-52 are pending and rejected. Claims 33-36, 38-46, and 48-52 are appealed. A copy of the appealed claims is attached as appendix A.

(4) Status of Amendments

All of the amendments propounded by the Applicant have been entered including the amendment after final. There are no outstanding amendments.

(5) Summary of Claimed Subject Matter

There are four independent claims involved in this appeal: 33, 38, 43, and 48. All of these claims relate to the driving of displays using formats designed for raster types. Claim 33 is directed to a computer device for driving "multiple displays of different types." Claim 38 is directed to a computer device for driving a "hybrid stroke/raster display." Claim 43 is directed to a method for driving "multiple displays of different types using formats designed for raster displays." Claim 48 is directed to a method for driving "a hybrid stroke/raster display using formats designed for raster displays."

Generally, the invention, as presently claimed, is a method and apparatus for driving multiple displays of different types, specifically raster displays, stroke displays and hybrid displays (a combination of stroke and raster displays), using a single display routine, and to dynamically switch between displays in real time. The invention dynamically switches the information to be displayed between the selected displays.

Claim 33 is a representative independent claim for this appeal. The claim is set forth and is supported by the cited page numbers as indicated in parentheses.

33. A computer device (pg. 8, line 4) for driving multiple displays of different types pg.8, line 5) using formats designed for raster displays (pg. 3, line 22), said device comprising:

means for linking generated code from said formats to a standard graphics library (pg. 3, line 24 through pg. 4, line 1; Figs. 4-9);
means for driving a plurality of displays of different types with a single display routine (pg. 8, lines 12-14, pg. 13, lines 14-16; fig. 4-9), said plurality of displays comprising stroke displays, raster displays and hybrid displays (pg. 8, lines 6-10, pg. 9, lines 2-4), wherein said hybrid displays comprise stroke and raster displays(pg. 8, line 24 through pg. 9, line 2), from output of said graphics library (pg. 10, lines 16-20); and
means for dynamically switching between said displays in real time (pg. 8, lines 6-8, lines 22-24; Figs. 4-9).

All of the independent claims (33, 38, 43, and 48) include the linking of generated code to a standard graphics library and driving the display or displays with a single display routine. This functionality is described on page 4, line 8 through page 6, line 3 of the copy of the application in the file. This aspect of the invention is further discussed from page 8, line 20 through page 9, line 3. Figures 4-9, *inter alia*, illustrate the software providing the functionality of the claims. Independent claim 33 includes a means for dynamically switching (p. 8, lines 6-8, lines 22-24; Fig. 4-9). Independent claim 38 includes a means for providing stroke and raster display inputs from output of said graphics library. (p. 8, line 24- p. 9, line 2; Figs 4-9).

To assist in deciding the issues presented, a brief summary of the proceedings is hereby presented. The original patent application was filed with the Office on December 13, 1999, with 52 claims. An office action was issued on Jan. 23, 2002, containing a restriction and/or election requirement. An election was made by the applicants on February 5, 2002, electing claims 33-52. A non-final office action was mailed by the Office on May, 8, 2002, objecting to certain informalities and rejecting all of the pending claims based primarily on a prior art reference to Tomiyasu (US 5,138,305). On September 3, 2002, a response to the office action was timely filed by amending the claims to specifically indicate the type of displays that were not contained in the cited reference. Another office action was issued by the Office on November 27, 2002, again rejecting all of the pending claims. Another amendment was filed by the Applicants on March 19, 2003, whereby the feature of a “single display routine” was added to the claims and fully supported in the specification. A final office action was issued by the Office on May 5, 2003, indicating that Stoddard (US Pat. No. 3,665,454) contained a “single display generator” feature that the Examiner apparently deemed similar to a “single display routine”. Thereafter, a response, after final, within two months of the office action, was timely filed on July 1, 2003. The Applicants argued that a single display routine was not the same or equivalent to a single display generator. The Examiner in his advisory action dated July 14, 2003, identified a new reason for rejection and stated “Stoddard, et al., teaches driving a plurality of displays of different types with communication buses or data flow paths are illustrated as single lines (see column 2, lines 42-43)” and indicated that the claims continued to be rejected. From this, Applicants appeal.

(6) Grounds of Rejection to be Reviewed on Appeal

Claims 33-36, 38-46, and 48-52 stand rejected under 35 U.S.C. 103 as being allegedly unpatentable over Stoddard (U.S. 3,665,454) in view of Cook (U.S. 5,513,365).

(7) Argument

In the second reopening of the prosecution of December 16, 2004, claims 33-36, 38-46 and 48-52 were rejected under 35 USC §103(a) as being unpatentable over Stoddard, et al., in view of Cook, et al. This rejection is addressed below. The examiner has withdrawn the following grounds of rejection:

- (i) Rejection of Claims 38-42 under 35 USC § 103(a) as being unpatentable over Grothe, et. al., (US 4,635,050) in view of Stoddard et al. (US 3,665,454) filed 05/02/2003;
- (ii) Rejection of Claims 33-36 and 43-46 under 35 USC §103(a) as being unpatentable over Tomyasu, et al., (US 5,138,305) in view of Stoddard, et al. (US 3,665,454) filed 11/27/2002; and
- (iii) Rejection of Claims 33-36, 38-46, 48-52 under 35 USC § 103(a) as being unpatentable over Stoddard et al. (US 3,665,454) in view of Brown et al. (US 6,047,123) filed 01/15/2004.

Although these grounds for rejection have been withdrawn, Applicants arguments and legal citations regarding these withdrawn grounds of rejection set forth in applicants' original appeal brief and supplemental briefs are relevant to the present argument and have been incorporated herein.

(7a) 35 U.S.C. § 103(a) Rejection of Claims 32-36, 38-46 and 48-52 over Stoddard (U.S. 3,665,454) in view of Cook (U.S. 5,513,365)

In the second reopening of the prosecution of December 16, 2004, claims 33-36, 38-46 and 48-52 were rejected under 35 USC §103(a) as being unpatentable over Stoddard, et al., in view of Cook, et al.

In the last response filed (March 19, 2003), the applicants argued that the invention requires only a “single display routine” to drive the displays of different types.

As argued in the several responses to the office actions, there are three different types of displays, stroke displays, raster displays, and hybrid displays (a combination of stroke and raster displays). Each display type requires a specific input format designed for each display type. Stoddard, et al., describes plural display indicators driven by a single display generator (Col.1, lines 64-66). This display generator is in reference to a single **stroke** graphics generator driving a single display or multiple displays at different drawing rates (emphasis added). "A significant advantage of the FIG. 1 embodiment is that the display indicators D1 and D2 can time share the display generator 13 so as to present common or unique sets of symbols and/or video images on both indicators for simultaneous visual observation." (Col. 4, lines 49-54) Again this is in reference to 2 or more stroke displays and/or 2 or more stroke drawing rates. Stoddard, et al., discloses using only one type of graphics generation - stroke drawn graphics. There is no mention of raster generated graphics and/or using a single display routine to render graphics in either stroke or raster on the same display. The only remotely close inference to other display types is at Col. 4 lines 50-54 that indicates: "Though illustrated with a cursive writing technique, the variable rate character generator technique is equally applicable to raster scan, dot generating and other writing techniques." This passage does not indicate how this can be done, whether other signal generators are necessary nor does it mention a combined stroke/raster format or using the identical single display routine to generate the same formats in either stroke or raster mode.

The phrase that "Stoddard teaches driving a plurality of displays of different types with communication busses or data flow paths are illustrated as single lines (see col. 2, lines 42-43)" is in reference to drawing graphics in stroke and does not reference raster generated graphics on the same display.

The Examiner in the final office action indicated that Stoddard teaches a "single display generator", thus rejecting the independent claim (claim 38) for this set of rejections. The rejection was traversed. The error in the rejection is that a display routine is not the same or even closely related to a display generator. The only common feature

between a "single display generator" and a "single display routine" are the words "single" and "display". A "single display routine" is not the same as a "single display generator" in the context of the Stoddard, et al., patent or in any context. As specifically set out in the response to the office action dated February 25, 2003, a "single display generator" provides a common means for rendering display objects while the "single display routine" provides a means for defining the display objects to be rendered. A display generator is the same element as the one or more display interfaces from the output of the video library as set out on page 4, lines 8-13 of the patent application. The feature and operation of the single display routine is set out on page 9, lines 1-12. The single display routine could be used with the single display generator of Stoddard as well as other display interfaces. Stoddard discussed a hardware generator while the present patent application teaches a software routine that interfaces with the hardware generator(s). The "single display routine" is a software functional interface that may use one or more "single display generators". The "single display generator" as defined in the Stoddard patent is a specific hardware solution for rendering displays while the "single display function" as defined in the present patent application is a software functional interface not limited to any one specific hardware solution. The Examiner's simplistic statement that a "single display generator" is similar to a "single display routine" is totally without merit. If the Examiner's rejections are based on a "single display generator" being an equivalent of a "single display routine", he again is in error.

In the advisory action dated July 14, 2003, the Examiner maintained his rejection and stated: "continuation of 5 does NOT place the application in condition for allowance because: Stoddard, et al., teaches driving a plurality of displays of different types with communication busses or data flow path are illustrated as single lines (see column 2, lines 42-43)". Again, this passage and features are totally different than a "single display routine". The only similar word between the cited prior art passage and the claim language in the present patent application is the word "single". A data flow path is a conduit for data. This data can be a multitude of items; however, Stoddard, et al., fails to describe what these items are, let alone specifically defining them as a "single display

routine". It is unimaginable how the Examiner made this leap of first indicating that a display generator is described or implied as a single display routine and then the same leap by holding that a single data path is similar or by implication, the same a single display routine.

It is apparent that Stoddard, et al., does not mention or infer any type of a display routine and specifically does not disclose a single display routine as taught and claimed in the present invention. Therefore, the next analysis requires the applicant to show that the Examiner's conclusion, that a single signal generator or a single data path line is not an equivalent to the claimed feature of a single display routine. Although this appears obvious from the above discussion, the analysis is provided below.

In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents. In re Ruff, 256 F.2d 590, 118 USPQ 340 (CCPA 1958) (The mere fact that components are claimed as members of a Markush group cannot be relied upon to establish the equivalency of these components. However, an applicant's expressed recognition of an art-recognized or obvious equivalent may be used to refute an argument that such equivalency does not exist.); In re Scott, 323 F.2d 1016, 139 USPQ 297 (CCPA 1963) (Claims were drawn to a hollow fiberglass shaft for archery and a process for the production thereof where the shaft differed from the prior art in the use of a paper tube as the core of the shaft as compared with the light wood or hardened foamed resin core of the prior art. The Board found the claimed invention would have been obvious, reasoning that the prior art foam core is the functional and mechanical equivalent of the claimed paper core. The court reversed, holding that components which are functionally or mechanically equivalent are not necessarily obvious in view of one another, and in this case, the use of a light wood or hardened foam resin core does not fairly suggest the use of a paper core). In the present patent application, the Applicant did not indicate that the features presented by the Examiner were functional or mechanical equivalents, nor could

they, because the hardware features shown by the Examiner are distinct different from the claimed software feature.

Further in anticipation of the Examiner indicating that the *gist* of the single display generator or single data path accomplished the same purpose as a single display routine, the following is provided. Distilling an invention down to the "gist" or "thrust" of an invention disregards the requirement of analyzing the subject matter "as a whole." W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (restricting consideration of the claims to a 10% per second rate of stretching of unsintered PTFE and disregarding other limitations resulted in treating claims as though they read differently than allowed); Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc., 796 F.2d 443, 447-49, 230 USPQ 416, 419-20 (Fed. Cir. 1986), cert. denied, 484 U.S. 823 (1987) (District court focused on the "concept of forming ridgeless depressions having smooth rounded edges using a laser beam to vaporize the material," but "disregarded express limitations that the product be an ophthalmic lens formed of a transparent cross-linked polymer and that the laser marks be surrounded by a smooth surface of unsublimated polymer."). See also Jones v. Hardy, 727 F.2d 1524, 1530, 220 USPQ 1021, 1026 (Fed. Cir. 1984) ("treating the advantage as the invention disregards statutory requirement that the invention be viewed 'as a whole'"); Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1 USPQ2d 1593 (Fed. Cir.), cert. denied, 481 U.S. 1052 (1987) (district court improperly distilled claims down to a one word solution to a problem). See MPEP 2144.06.

The Cook, et al., reference was raised to provide the deficiency of Stoddard, et al., which fails to teach "a graphics adapter interface (GAI) 700 (fig. 4) linking a specific code 661-683 (linking generated code, fig. 4) from a 3-D GL application (formats 605, fig. 4) to a 3-D application programming interface (API) (620) (graphics library, GL) (fig. 4). The graphics library GL defined a single display routine as claimed." Cook, et al., teaches an apparatus for interfacing between a plurality of application programs and at least one display adapter having functions supporting a display. Cook. et al., does not

have anything to do with the use of a "single display routine", nor does it discuss the ability to drive multiple displays of different types. In fact in Cook, et al., it specifically states: "The adapter interface layer includes three sets of codes 710, 720 and 730, each set being written for utilizing a particular display adapter. Each of these sets of code, herein referred to as routines, includes pieces of code, macros, subroutines and/or programs for utilizing the respective display adapters 770, 780, 790." (Column 3, line 67 through column 4, line 5) This section specifically indicates that a separate display routine is required for each display. It is unfathomable how this prior art patent can be used to reject the Applicants' independent claim feature of a "single display routine" for driving a plurality of displays of different types. This feature is specifically claimed in independent claims 33, 38, 43, and 48. Cook, et al., appears to be teaching exactly the opposite operation of the claimed feature of the present patent application at issue, i.e. using a separate display routine for each specific display. Further, Cook, et al., is limited to raster type displays, only. There is no mention or implication of using the device of Cook et al., to drive stroke displays or hybrid displays as specifically claimed in the independent claims at issue.

The prosecution of the present patent application and the appeal brief is focused on a single feature in the independent claims, a single display routine. The newly cited Cook reference does not mention or imply a single display routine for any purpose. As extensively discussed in the prior responses to the office actions, the original appeal brief and the first supplemental brief, none of the cited references individually or in combination discuss, imply or even hint at a single display routine for driving multiple displays of different types.

(8) Appendix

As previously indicated, an Appendix containing a copy of the claims involved in this appeal is attached as Appendix A. There is no evidence under 37 CFR 1.130, 1.131 or 1.132 or other evidence entered by the Examiner and relied on by the Appellant in this appeal, so no appendix for evidence is included.

Conclusion

In view of the foregoing, Applicant respectfully requests that the Board of Patent Appeals and Interferences overrule the Final Rejection of Claims 33-36, 38-46 and 48-52 over the cited art, and hold that Appellant's Claims are allowable over the references.

Respectfully submitted,

Dated: December 11, 2006

By:



Alison J. Baldwin
Reg. No. 48,968

McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive
Chicago, Illinois 60606

Telephone: (312) 913-0001
Facsimile: (312) 913-0002

APPENDIX A
to Appeal Brief of Appellant

APPEALED CLAIMS

33. (Previously Presented) (Appealed) A computer device for driving multiple displays of different types using formats designed for raster displays, said device comprising:

means for linking generated code from said formats to a standard graphics library;
means for driving a plurality of displays of different types with a single display routine, said plurality of displays comprising stroke displays, raster displays and hybrid displays, wherein said hybrid displays comprise stroke and raster displays, from output of said graphics library; and

means for dynamically switching between said displays in real time.

34. (Original) (Appealed) The device of Claim 33, wherein said graphics library comprises an OpenGL graphics library.

35. (Previously Presented) (Appealed) The device of Claim 33, wherein said formats comprise generated code formats.

36. (Original) (Appealed) The device of Claim 33, wherein said driving means comprise stroke video drivers using occlusion memory.

37. (Canceled) (Non-Appealed)

38. (Previously Presented) (Appealed) A computer device for driving a hybrid stroke/raster display using formats designed for raster displays, said device comprising:

means for linking generated code from said formats to a standard graphics library; driving said hybrid stroke and raster display with a single display routine; and

means for providing stroke and raster display inputs from output of said graphics library.

39. (Original) (Appealed) The device of Claim 38, wherein said graphics library comprises an OpenGL graphics library.

40. (Original) (Appealed) The device of Claim 38 further comprising stroke video drivers using occlusion memory.

41. (Original) (Appealed) The device of Claim 38 further comprising means for dynamically switching between stroke and raster video drivers in real time.

42. (Previously Presented) (Appealed) The device of Claim 38, wherein said formats comprise generated code formats.

43. (Previously Presented) (Appealed) A method for driving multiple displays of different types using formats designed for raster displays, the method comprising the steps of:

linking generated code from the formats to a standard graphics library;
driving a plurality of displays of different types with a single display routine, the plurality of displays comprising stroke displays, raster displays and hybrid displays, wherein the hybrid displays comprise stroke and raster displays, from output of the graphics library; and

dynamically switching between the displays in real time.

44. (Original) (Appealed) The method of Claim 43, wherein the linking step comprises linking to an OpenGL graphics library.

45. (Previously Presented) (Appealed) The method of Claim 43, wherein the linking step comprises linking generated code.

46. (Original) (Appealed) The method of Claim 43, wherein the driving step comprises employing stroke video drivers using occlusion memory rather than raster masking.

47. (Canceled) (Non-Appealed)

48. (Previously Presented) (Appealed) A method for driving a hybrid stroke/raster display using formats designed for raster displays, the method comprising the steps of:

linking generated code from the formats to a standard graphics library;
driving the hybrid stroke and raster display with a single display routine; and
providing stroke and raster display inputs from output of the graphics library.

49. (Original) (Appealed) The method of Claim 48, wherein the linking step comprises linking to an OpenGL graphics library.

50. (Original) (Appealed) The method of Claim 48 further comprising the step of providing stroke video drivers using occlusion memory.

51. (Original) (Appealed) The method of Claim 48 further comprising the step of dynamically switching between stroke and raster video drivers in real time.

52. (Previously Presented) (Appealed) The method of Claim 51, wherein the linking step comprises linking generated code.